

# Android Based Student Feedback System for Improved Teaching Learning

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**Abstract** — The process used to collect the student's feedback is manual and takes more time to complete its analysis and report generation. As technology is changing at fast rate, maximum numbers of android application are available for educational purpose. In recent years the android technology with web services has brought many drastic changes in the mobile application development field. In this paper we proposed a system which provides a simple interface for collection and analysis of student's feedback. It can be used by educational institutes or colleges to maintain the records of student's feedback. Valuing and asking for feedback has recognized benefits for both faculty and students. For faculty to develop and improve teaching skills. Using this application, students can fill their feedback through any android based mobile. Once they submit it, their feedback will be analyzed quickly and feedback report can be generated within very short span of time.

**Keywords** — Students Feedback System, Adndorid, Online Feedback

## I. INTRODUCTION

In today's world data handling and processing by computer aided tools is increasing day by day. In any education system *Students feedback* is considered as very important aspect for improving the teaching learning process.

The *Student feedback* approach is all about institutional practices and processes that are taken into consideration [1], the students concerns of the level of knowledge they receive. This process explains that there is a good relationship between the students learning environment and the validation of learning environment.

In the traditional/existing system, the institute provides the feedback forms developed by institute itself. These feedback forms were distributed among the students and the students are supposed to mark their feedback manually about the academics including lecturer, practical, assignments, punctuality, knowledge of problem solving capacity and many more. The submitted feedback forms are then collected by the faculty or staff and the overall grade for each point mentioned in the form, subject and each teacher is calculated probably by using the MS excel sheet. The feedback report is then handover to the Head of department. After receiving the feedback, Head of the department shall discuss it with the concern faculty and inform them regarding the necessary corrective actions to improve the academic standards and

rectify the lower grades about specific point. Such existing system is more time consuming and there is also the possibility of making the mistakes by data entry operator while feeding the grades in excel sheet.

In the proposed methodology, the Head of department has to prepare questions and need to add them to the system, then he need to update these questions to the online system. Once they are uploaded by Head of the department then and then only students are able to view and give their feedback. The students are expected to enter the grades directly with their android mobile phone. As students are entering their feedback at their own, hence there is no need of data entry operator which will further reduce the possibility of wrong data feeding. As students are entering their grades, the analysis will be done automatically at the back end and the feedback report will be generated automatically. The proposed is feedback system is simpler and takes less time to collect and complete the analysis of feedback without any mistake [4].

The paper is organized into four sections. Section II explains the existing systems/tools available for taking the feedback. Proposed method is presented and demonstrated in section III. In section IV, the results and snaps of the system are demonstrated.

## II. RELATED WORK

In the existing system is feedback is taken with the help of pen and paper. Although the use of paper is considered to be a simple one, but this makes the task more tedious and time consuming. In this existing system, utmost care should be taken that the single paper should not be lost or misplaced. Generation of large number of paper photocopies for the same purpose requires a large amount of paper. The major concern about this method is that; this system is more time consuming and consumes more papers to keep the records.

Rajvee Patel et al. [1] in their work explained the Feedback management System. The 'Feedback management System' approach is all about institutional and educational practices and processes that are taken into consideration, the student's concerns of the level of the knowledge they receive. They have developed faculty feedback system to provide feedback in an easy and consistent manner to the college HOD or principal. They call it faculty feedback system which delivers via student staffs interface as online system which is acting as Service Provider. Phani Rama Prasad et al. [2] proposed the Online Student Feedback System which is an automatic feedback generation system that provides the proper feedback to the lecturers. Using their system student can give feedback in online system without wasting his time in writing. Nikhil H.M. et al. [3], developed Student Feedback System to provide feedback in an easy and quick manner to the college principal. By using their system one can take fast feedback about the faculty by students on time. Sivasankari S. et al. [4], proposed Online Student Feedback Analysis System (OSFAS). The Online Student Feedback Analysis System (OSFAS) is an automatic feedback generation system that provides the proper feedback about the teachers by using comments and categories like good, interesting, late, interactive, etc. The main aim of their system is not only to save time but also to decrease human efforts.

## III. METHODOLOGY

The main intention of the proposed system is to reduce the use of paper i.e. to develop the paperless system. The proposed method is implemented on the android technology. The data collected through the feedback system will be centrally stored and can be retrieved efficiently as and when needed, hence along with proper data synchronization, proper reports generation is also possible.

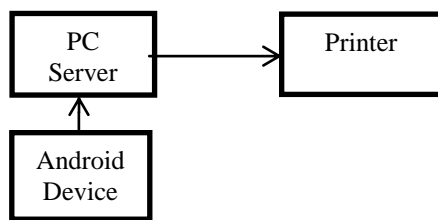


Figure 1. Top Level Block Diagram of System

### A. System Description

The System will work the as follows.

- *Student Login*

The students will receive one time password (OTP) for registration at the initial step. This OTP will help us to locate the proper student and authenticate them. Once the student is logged in, he/she will be able to give the feedback for the respected entities like year, class, semester or course teachers. Once the feedback is submitted, the related data will be stored to the server (PC) that will works as the one containing data centrally.

- *Admin Module*

The admin is be responsible for generating unique ID's and one time passwords for students. He/she is able to add relative entities along with their courses and teachers/instructors or vice versa. The admin has rights to authenticate the students those are going to give the feedback.

### B. Flowcharts

The functioning of the system can be well understood by the flowcharts. There are four flowcharts of the proposed system namely:

- *Flowchart for Admin module*
- *Flowchart for student module*
- *Flowchart for server*
- *Flowchart of overall system*

- *Flowchart for Admin module*

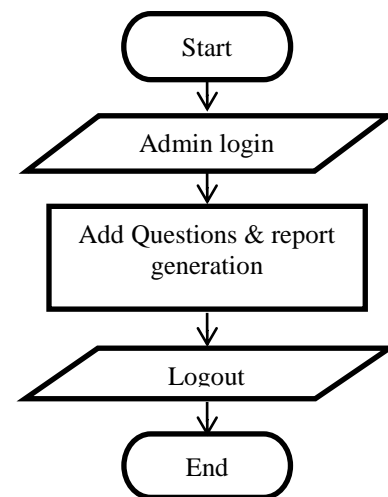


Figure 2. flowchart for admin module

Through the Admin login (figure 2), one can create the teachers profile; add course/subject and mapping of teacher with the courses/subject. The Admin can also add the question on which the student's feedback can be gathered and analyzed. The final analysis of the received can also be done by the admin through his/her login.

- *Flowchart for student module*

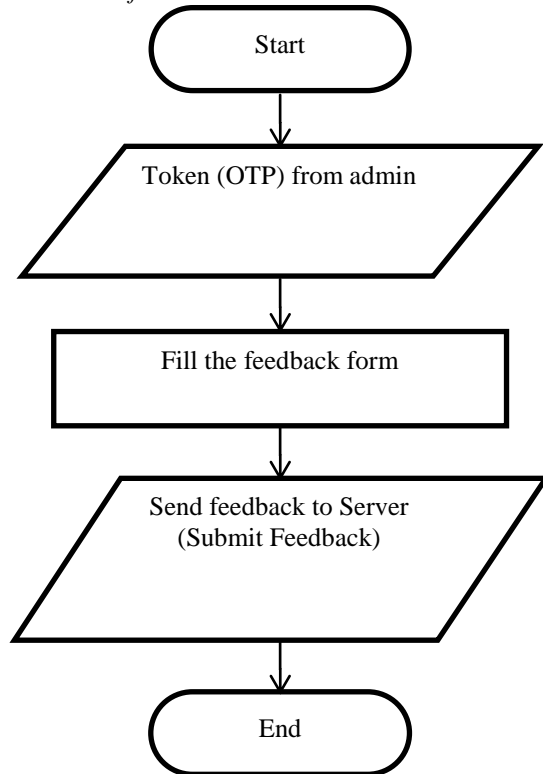


Figure 3. flowchart for student module

Through the students module (figure 3), the students can login in to the system using the token (password) received by admin. Once the student logs in the system they have to mark their feedback upon the question asked/set and the multiple options available.

- *Flowchart for server*

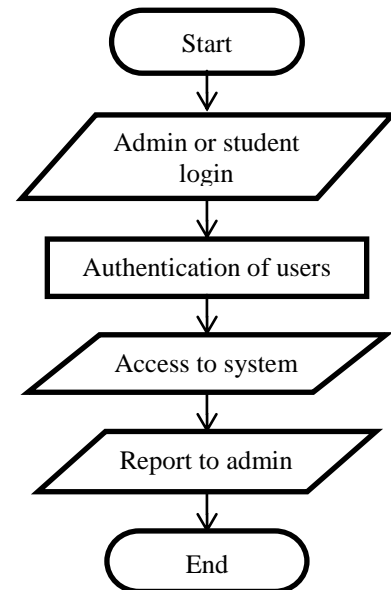


Figure 4. flowchart for server

Above flowchart (figure 4) mentions the steps that are carried out at the server for generating the feedback. Initially the when students are registering for the feedback then token is generated. Using that token students can log in into the system then server has to authenticate them. The authentic users only allowed for giving feedback.

- *Flowchart of overall system*

The overall flowchart (figure 5) of the system explains the detailed procedure and steps involved on the feedback process. As mentioned earlier, the admin has to create the questions and do the teacher and course/subject mapping. Admin also needs to create the tokens/passwords for the students. With the token provided by admin, students can log into the system. The students login has to be authenticated by admin. After login student are supposed to enter the roll number, select the department, class, subject and the mark their feedback.

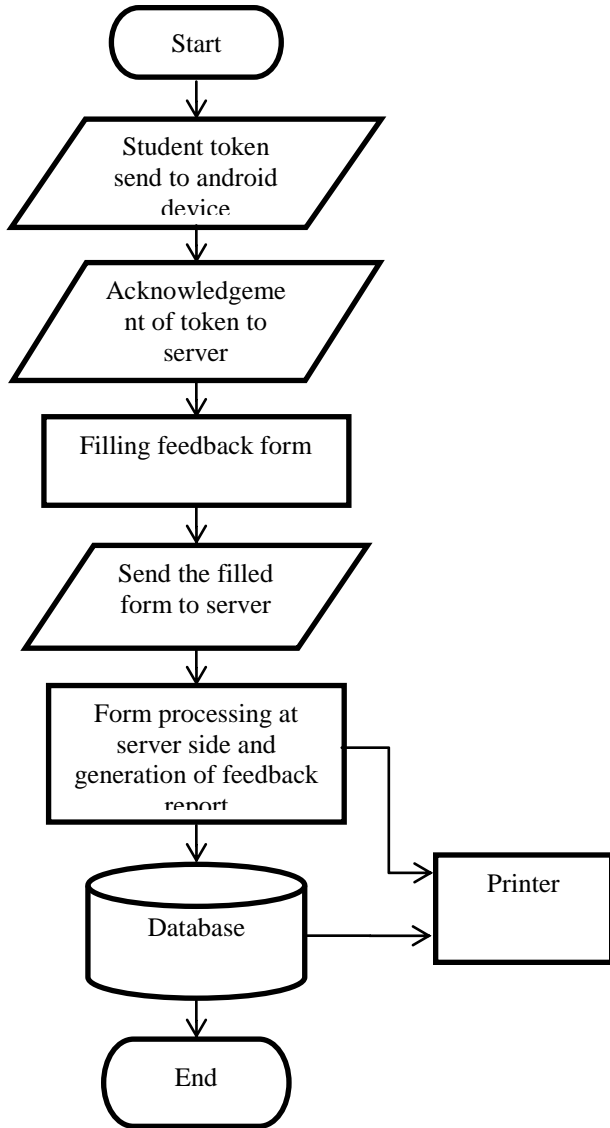


Figure 5. flowchart of overall system

**IV. RESULTS AND DISCUSSION**

*A. Admin side*

The form is titled "Log In". It contains two input fields: "User Name" and "Password". Below these fields is a green "Submit" button.

Figure 6. Admin Login

Through this window (figure 6) the admin can login into system. After logging in he can add the courses, teachers and questions of feedback.

The form is titled "Add Teacher". It has a navigation bar at the top with "Home", "Add Info", "Edit Info", "All Student's", "Feedback Report", "Setting", and "Log Out". The form contains two input fields: "Teacher Name" and "Email". Below these is a green "Submit" button.

Figure 7. Add the teacher

Once the admin is logged into the system, then he has to add the teacher's information (figure 7) into the system.

The form is titled "Add Subject". It has the same navigation bar as Figure 7. It contains one input field: "Subject Name". Below this is a green "Submit" button.

Figure 8. Add courses/subjects

After adding the teacher details, the admin need to add the names of courses (figure 8) for which the feedback is to be taken.

The form is titled "Add Teacher To Subject". It has the same navigation bar. It contains four dropdown menus: "Department" (with "Mechanical" selected), "Teacher Name", "Subject Name", and "Class". Below these is a green "Submit" button.

Figure 9. Mapping of teacher to course/subject

Once the admin is entering the teacher information and all the courses, he now needs to assign the subjects/courses to the concerned faculty/teachers (figure 9).

Figure 10. Add the questions

Once the admin is completing the process of adding the teacher, course name and questions of feedback and later he wants to change few points/information entered earlier e.g. teacher mail id, name of course or need to change question then the rights are given to admin to edit the earlier information.

*B. Student side:*

Figure 11. Student Registration

While doing the registration the student has to use his personal information like roll number, name, e-mail address, department, class and division etc. After filling the required information (figure 11), student can complete his/her registration. After completing the signup procedure, student will get the One Time Password (OTP) on his mail id.

Figure 12. Student Login

With the OTP received after completion of earlier step student can now log into the system (figure 12).

Figure 13. Select the course/subject

Student has to select their class and course/subject for which they are willing to give their feedback (figure 13).

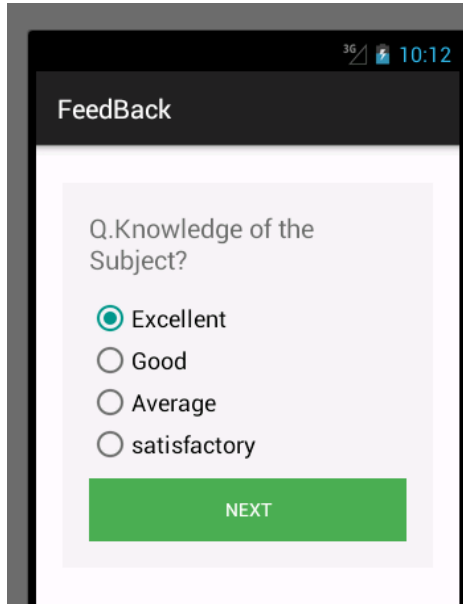


Figure 14. Feedback submission

Student should read the question and select the proper option to mark their feedback. After submitting the answer of first question they can move to next question by clicking on NEXT button.

The questions added for the feedback are:

- Knowledge of the Subject
- Ability to Explain
- Planning & Preparation towards Lecture
- Presentation & Use of Teaching Aids
- Punctuality in Academic Work
- Use of Examples to Clarify the Concept
- Ability to design & conduct experiments
- Ability to work on Multidisciplinary courses
- Ability to identify, formulate & solve engineering problems
- Ability to engage in life-long learning
- Knowledge of contemporary issues

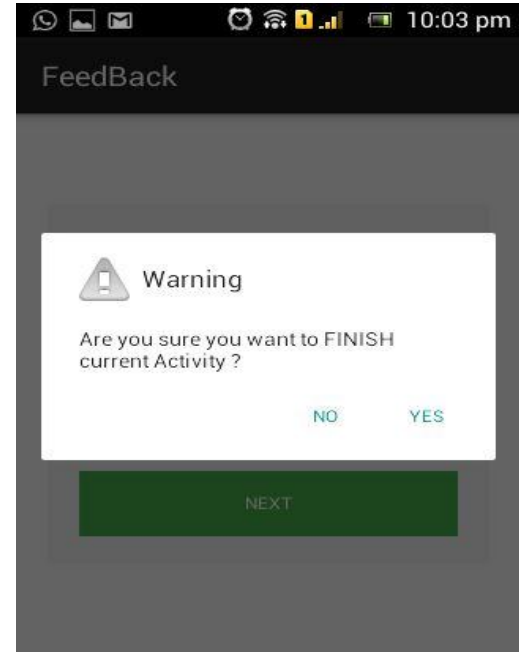


Figure 15. Confirmation regarding submission of feedback After giving the answer to the last question of first course/subject, student has to select the new course/subject and repeat the same procedure. When student is giving the answer of last question of last subject, he/she has to submit the feedback. During this final window, where it asks about final submission confirmation, student has to click on YES (figure 15).

| BE Feedback Report                           |                |       |         |      |
|--|----------------|-------|---------|------|
| Department                                   | Electronics    |       |         |      |
| Division                                     | A              |       |         |      |
| Subject                                      | System on chip |       |         |      |
| Question                                     | Best           | Good  | Average | Bad  |
| Knowledge of the Subject?                    | 66.67          | 0.00  | 33.33   | 0.00 |
| Planning and preparation towards the Lecture | 66.67          | 0.00  | 33.33   | 0.00 |
| Presentation and use of teaching aids        | 66.67          | 33.33 | 0.00    | 0.00 |

Figure 16. Feedback report of course/subject

After every student finishes his/her feedback, the analysis of feedback will be done at the back end. The calculation of percentage for Best, Good, Average and Poor will be done by

considering how many students entered their feedback and what rating they marked during feedback process. The detailed feedback report and its analysis for one course/subject is mentioned in figure 16.

## V. CONCLUSION

The traditional system to collect and analyse the student feedback is more tedious and time consuming process. With the android based student feedback system we can collect the student's feedback from any android mobile i.e. feedback collection is very simple and feedback report will be made available directly after analysis of feedback data.

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